

TSZAA-A

OPTICAL LOSS TEST SET

1. GENERAL. This procurement requires a lightweight optical loss test set. It may be used as a power meter, loss test set, or optical source.

2. CLASSIFICATION. The optical loss test set described herein shall meet the requirements of MIL-T-28800, Type III, Class 5, Style E, Color R for the Navy shipboard, submarine, and shore applications with the following exceptions:

a. The relative humidity requirement is limited to 95% noncondensating.

b. The operating and nonoperating altitude requirements are not invoked.

c. The electromagnetic interference requirements of MIL-T-28800 are limited to CE01, CE03, CS01, CS02 (0.05 to 100 MHz), CS06, RE01 (back panel search excluded), RE02 (14 kHz to 1 GHz), and RS03.

d. The warm-up time for source stability is 5 minutes.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of performing optical loss measurements and generating optical signals within the parameters and accuracies specified herein.

3.1 Optical loss (power meter).

3.1.1 Wavelength range. At least 800-1650 nm.

3.1.2 Measurement range. 0 to -70 dBm.

3.1.2.1 Auto range selection with hold range feature.

3.1.3 Accuracy. $\pm 5\%$ (Level > -20 dBm @ 1,300 nm).

3.1.4 Display. Digital.

3.1.4.1 Parameters. (1) Power level in dBm/W; (2) wavelength in nm; (3) low battery indicator.

3.1.4.2 Type. LCD (backlit).

3.1.4.3 Resolution. At least 4 digits for power/0.01 dB.

3.1.5 Input connector. Interfaces for at least FC, ST, SMA, Biconic, D4.

3.1.6 Averaging ON/OFF. Capability to average more than one reading.

3.2 Optical source (plug-in replaceable).

3.2.1 Wavelength. 1300 ± 40 nm (multimode).

3.2.1.1 Bandwidth. < 150 nm.

3.2.2 Output power. > -25 dBm (into 50/125 μm).

3.2.2.1 Level stability. < 0.3 dB (0 - 50°C).

3.2.3 Output connector. Interfaces for at least FC, ST, SMA, Biconic, and D4.

4. GENERAL REQUIREMENTS.

4.1 Power. DC battery for portable operation.

4.1.1 DC operating time:

4.1.1.1 Power meter mode. At least 10 hours.

4.1.1.2 Loss mode. At least 4 hours.

4.1.2 AC operation. External adapter provides DC to input jack. AC Voltage. $115/230 \pm 10\%$.

4.1.3 Auto power OFF. Automatic turn off if no key pressed.

4.1.3.1 Time internal. At least 5 min; less than 10 min.

4.2 Dimensions. Less than 20.32 cm (8 in) height; 10.16 cm (4 in) width; 5.08 cm (2 in) depth.

4.3 Weight. 1 kg (2.2 lbs) max (including source, sensor, and batteries).

4.4 Calibration interval. The calibration interval shall be 12 months minimum. The equipment shall be within all accuracy requirements specified herein, with a 72% or greater confidence factor following a calibration interval of 12 months.

4.5 Transit case. A protective carrying case shall be provided for transporting the test set.